MEMORANDUM

CH2M HILL

TO: Recipients of the Final RCRA Facility Investigation (RFI) Report, Rhône-Poulenc's Marginal Way Facility, Tukwila, Washington

FROM: Liz Luecker

DATE: June 21, 1995

SUBJECT: Replacement Pages for the Final RFI Report

Earlier this week, you received copies of the replacement and new pages for the final RFI Report. Two of the replacement pages for Appendix D in Volume III—page 30 in the Round 1 Groundwater Results and page 6 in the Round 1 Sediment Results—were inadvertently printed as right-hand pages. The correct pages are attached; please insert these into your documents and recycle the previous versions. Thank you.

Rhone-Poulenc RFI

Round 1

Detected Groundwater Results

Area	Sample ID	Station ID	QA/QC	Parameter	Result	Qualifer	Units
BG	04-DM9	DM-01B	FD	Lead, Total	2.9	B	ug/L
BG	04-DM9	DM-01B	FD	Magnesium, Dissolved	2290	B	ug/L
BG	04-DM9	DM-01B	FD	Magnesium, Total	2420	B	ug/L
BG	04-DM9	DM-01B	FD	Manganese, Dissolved	28.3		ug/L
BG	04-DM9	DM-01B	FD	Manganese, Total	46.1		ug/L
BG	04-DM9	DM-01B	FD	Potassium, Dissolved	9960		ug/L
BG	04-DM9	DM-01B	FD	Potassium, Total	10300		ug/L
BG	04-DM9	DM-01B	FD	Selenium, Dissolved	3.3	BW	ug/L
BG	04-DM9	DM-01B	FD	Sodium, Dissolved	170000		ug/L
BG	04-DM9	DM-01B	FD	Sodium, Total	169000		ug/L
BG	04-DM9	DM-01B	FD	Vanadium, Dissolved	18	B	ug/L
BG	04-DM9	DM-01B	FD	Vanadium, Total	16.9	B	ug/L
Semivolatiles							
BG	04-DM9	DM-01B	FD	Bis(2-Ethylhexyl)Phthalate	1	J	ug/L
Volatiles							
BG	04-DM9	DM-01B	FD	Formaldehyde	47		ug/L

FD= Field Duplicate
EB= Equipment Blank

Rhone-Poulenc RFI

Round 1

Detected Groundwater Results

Area	Sample ID	Station ID	QA/QC	Parameter	Result	Qualifer	Units
BG	03-DM1B	DM-01B		Carbonate (From Alkalinity)	12		mg/L
BG	03-DM1B	DM-01B		Chloride	71	D	mg/L
BG	03-DM1B	DM-01B		pH, (field)	8.97		-log+H
BG	03-DM1B	DM-01B		Specific Conductance	610		umhos/cn
BG	03-DM1B	DM-01B		Sulfate	0.128		mg/L
BG	03-DM1B	DM-01B		Temperature	12.2		°C
BG	03-DM1B	DM-01B		Total Dissolved Solids	495		mg/L
BG	03-DM1B	DM-01B		Total Organic Carbon	6.54		mg/L
Inorganics							
BG	03-DM1B	DM-01B		Aluminum, Dissolved	108	B	ug/L
BG	03-DM1B	DM-01B		Aluminum, Total	886		ug/L
BG	03-DM1B	DM-01B		Arsenic, Dissolved	21.9	S	ug/L
BG	03-DM1B	DM-01B		Arsenic, Total	22.5	S	ug/L
BG	03-DM1B	DM-01B		Calcium, Dissolved	3360	B	ug/L
BG	03-DM1B	DM-01B		Calcium, Total	3810	B	ug/L
BG	03-DM1B	DM-01B		Iron, Dissolved	544		ug/L
BG	03-DM1B	DM-01B		Iron, Total	1290		ug/L
BG	03-DM1B	DM-01B		Lead, Dissolved	2.3	B	ug/L
BG	03-DM1B	DM-01B		Lead, Total	2.6	B	ug/L
BG	03-DM1B	DM-01B		Magnesium, Dissolved	2430	B	ug/L
BG	03-DM1B	DM-01B		Magnesium, Total	2540	B	ug/L
BG	03-DM1B	DM-01B		Manganese, Dissolved	29.1		ug/L
BG	03-DM1B	DM-01B		Manganese, Total	46.1		ug/L
BG	03-DM1B	DM-01B		Potassium, Dissolved	10100		ug/L
BG	03-DM1B	DM-01B		Potassium, Total	10200		ug/L
BG	03-DM1B	DM-01B		Sodium, Dissolved	173000		ug/L
BG	03-DM1B	DM-01B		Sodium, Total	169000		ug/L
BG	03-DM1B	DM-01B		Vanadium, Dissolved	19.6	B	ug/L
BG	03-DM1B	DM-01B		Vanadium, Total	21.9	B	ug/L
Volatiles							
BG	03-DM1B	DM-01B		Formaldehyde	56		ug/L
Conventionals							
BG	04-DM9	DM-01B	FD	Alkalinity (As CACO3)	313		mg/L
BG	04-DM9	DM-01B	FD	Bicarbonate (From Alkalinity)	301		mg/L
BG	04-DM9	DM-01B	FD	Carbonate (From Alkalinity)	12		mg/L
BG	04-DM9	DM-01B	FD	Chloride	65.8	D	mg/L
BG	04-DM9	DM-01B	FD	Sulfate	0.206		mg/L
BG	04-DM9	DM-01B	FD	Total Dissolved Solids	508		mg/L
BG	04-DM9	DM-01B	FD	Total Organic Carbon	4.63		mg/L
Inorganics							
BG	04-DM9	DM-01B	FD	Aluminum, Total	797		ug/L
BG	04-DM9	DM-01B	FD	Arsenic, Dissolved	25.8	+	ug/L
BG	04-DM9	DM-01B	FD	Arsenic, Total	21.5		ug/L
BG	04-DM9	DM-01B	FD	Calcium, Dissolved	3260	B	ug/L
BG	04-DM9	DM-01B	FD	Calcium, Total	3800	B	ug/L
BG	04-DM9	DM-01B	FD	Iron, Dissolved	488		ug/L
BG	04-DM9	DM-01B	FD	Iron, Total	1250		ug/L
BG	04-DM9	DM-01B	FD	Lead, Dissolved	2.3	B	ug/L

FD= Field Duplicate
EB= Equipment Blank

Rhone-Poulenc RFI

Round 1

Detected Sediment Results

Area	Sample ID	QA/QC	Sample Interval (feet bgs) Top	Bottom	Parameter	Result	Qualifer	Units
11	A11-07-01		0	0.5	Indeno(1,2,3-CD)Pyrene	0.085	J	mg/kg
11	A11-07-01		0	0.5	Phenanthrene	0.082	J	mg/kg
11	A11-07-01		0	0.5	Pyrene	0.49	J	mg/kg
Inorganics								
11	A11-08-01	FD	0	0.5	Aluminum, Total	11300		mg/kg
11	A11-08-01	FD	0	0.5	Arsenic, Total	6.8	S	mg/kg
11	A11-08-01	FD	0	0.5	Barium, Total	31.1	B	mg/kg
11	A11-08-01	FD	0	0.5	Beryllium, Total	0.58	B	mg/kg
11	A11-08-01	FD	0	0.5	Calcium, Total	3700		mg/kg
11	A11-08-01	FD	0	0.5	Chromium, Total	16.5	*	mg/kg
11	A11-08-01	FD	0	0.5	Cobalt, Total	9.2	B	mg/kg
11	A11-08-01	FD	0	0.5	Copper, Total	25.8		mg/kg
11	A11-08-01	FD	0	0.5	Iron, Total	16500		mg/kg
11	A11-08-01	FD	0	0.5	Lead, Total	47.5	N*	mg/kg
11	A11-08-01	FD	0	0.5	Magnesium, Total	3890		mg/kg
11	A11-08-01	FD	0	0.5	Manganese, Total	193		mg/kg
11	A11-08-01	FD	0	0.5	Nickel, Total	15.6		mg/kg
11	A11-08-01	FD	0	0.5	Sodium, Total	1970		mg/kg
11	A11-08-01	FD	0	0.5	Vanadium, Total	49		mg/kg
11	A11-08-01	FD	0	0.5	Zinc, Total	93.6	*	mg/kg
Pesticides/PCB's								
11	A11-08-01	FD	0	0.5	4,4'-DDD	0.018	PJ	mg/kg
11	A11-08-01	FD	0	0.5	4,4'-DDE	0.0081	PJ	mg/kg
11	A11-08-01	FD	0	0.5	4,4'-DDT	0.011	PJ	mg/kg
11	A11-08-01	FD	0	0.5	Aroclor-1254	0.2	P	mg/kg
11	A11-08-01	FD	0	0.5	BHC-Delta	0.0067	PJ	mg/kg
11	A11-08-01	FD	0	0.5	Endosulfan I	0.002	P	mg/kg
11	A11-08-01	FD	0	0.5	Endosulfan II	0.0041	P	mg/kg
11	A11-08-01	FD	0	0.5	Endosulfan Sulfate	0.0058		mg/kg
11	A11-08-01	FD	0	0.5	Endrin Aldehyde	0.0058	P	mg/kg
11	A11-08-01	FD	0	0.5	Endrin Ketone	0.0028	JP	mg/kg
11	A11-08-01	FD	0	0.5	Gamma-Chlordane	0.0058	P	mg/kg
Semivolatiles								
11	A11-08-01	FD	0	0.5	Benzo(A)Anthracene	0.21	J	mg/kg
11	A11-08-01	FD	0	0.5	Benzo(A)Pyrene	0.15	J	mg/kg
11	A11-08-01	FD	0	0.5	Benzo(B)Fluoranthene	0.23	J	mg/kg
11	A11-08-01	FD	0	0.5	Benzo(K)Fluoranthene	0.21	J	mg/kg
11	A11-08-01	FD	0	0.5	Bis(2-Ethylhexyl)Phthalate	0.17	J	mg/kg
11	A11-08-01	FD	0	0.5	Chrysene	0.32	J	mg/kg
11	A11-08-01	FD	0	0.5	Fluoranthene	0.56		mg/kg
11	A11-08-01	FD	0	0.5	Indeno(1,2,3-CD)Pyrene	0.077	J	mg/kg
11	A11-08-01	FD	0	0.5	Phenanthrene	0.13	J	mg/kg
11	A11-08-01	FD	0	0.5	Pyrene	0.44	J	mg/kg
Inorganics								
11	A11-EB	EB			Aluminum, Total	26.4	B	ug/L
11	A11-EB	EB			Calcium, Total	262	B	ug/L
11	A11-EB	EB			Sodium, Total	699	B	ug/L

FD= Field Duplicate
EB= Equipment Blank

Rhone-Poulenc RFI

Round 1

Detected Sediment Results

Area	Sample ID	QA/QC	Sample Interval (feet bgs) Top	Bottom	Parameter	Result	Qualifer	Units
11	A11-06-01		0	0.5	Benzo(A)Anthracene	0.15	J	mg/kg
11	A11-06-01		0	0.5	Benzo(A)Pyrene	0.17	J	mg/kg
11	A11-06-01		0	0.5	Benzo(B)Fluoranthene	0.2	J	mg/kg
11	A11-06-01		0	0.5	Benzo(GHI)Perylene	0.091	J	mg/kg
11	A11-06-01		0	0.5	Benzo(K)Fluoranthene	0.21	J	mg/kg
11	A11-06-01		0	0.5	Bis(2-Ethylhexyl)Phthalate	0.3	J	mg/kg
11	A11-06-01		0	0.5	Chrysene	0.24	J	mg/kg
11	A11-06-01		0	0.5	Fluoranthene	0.44	J	mg/kg
11	A11-06-01		0	0.5	Indeno(1,2,3-CD)Pyrene	0.12	J	mg/kg
11	A11-06-01		0	0.5	Phenanthrene	0.14	J	mg/kg
11	A11-06-01		0	0.5	Pyrene	0.39	J	mg/kg
Inorganics								
11	A11-07-01		0	0.5	Aluminum, Total	11500		mg/kg
11	A11-07-01		0	0.5	Arsenic, Total	5.8	S	mg/kg
11	A11-07-01		0	0.5	Barium, Total	24.5	B	mg/kg
11	A11-07-01		0	0.5	Beryllium, Total	0.51	B	mg/kg
11	A11-07-01		0	0.5	Calcium, Total	3840		mg/kg
11	A11-07-01		0	0.5	Chromium, Total	17.6	*	mg/kg
11	A11-07-01		0	0.5	Cobalt, Total	8.5	B	mg/kg
11	A11-07-01		0	0.5	Copper, Total	57.4		mg/kg
11	A11-07-01		0	0.5	Iron, Total	15900		mg/kg
11	A11-07-01		0	0.5	Lead, Total	19	N*	mg/kg
11	A11-07-01		0	0.5	Magnesium, Total	3560		mg/kg
11	A11-07-01		0	0.5	Manganese, Total	135		mg/kg
11	A11-07-01		0	0.5	Nickel, Total	13.8		mg/kg
11	A11-07-01		0	0.5	Sodium, Total	2030		mg/kg
11	A11-07-01		0	0.5	Vanadium, Total	48.4		mg/kg
11	A11-07-01		0	0.5	Zinc, Total	85.4	*	mg/kg
Pesticides/PCB's								
11	A11-07-01		0	0.5	4,4'-DDD	0.042	J	mg/kg
11	A11-07-01		0	0.5	4,4'-DDE	0.01	J	mg/kg
11	A11-07-01		0	0.5	4,4'-DDT	0.021	PJ	mg/kg
11	A11-07-01		0	0.5	BHC-Delta	0.0066	PJ	mg/kg
11	A11-07-01		0	0.5	Endosulfan I	0.0013	JP	mg/kg
11	A11-07-01		0	0.5	Endosulfan II	0.0013	JP	mg/kg
11	A11-07-01		0	0.5	Endosulfan Sulfate	0.0044	P	mg/kg
11	A11-07-01		0	0.5	Endrin Aldehyde	0.0036	P	mg/kg
11	A11-07-01		0	0.5	Endrin Ketone	0.002	JP	mg/kg
11	A11-07-01		0	0.5	Gamma-Chlordane	0.0011	JP	mg/kg
11	A11-07-01		0	0.5	Methoxychlor	0.0015	JP	mg/kg
Semivolatiles								
11	A11-07-01		0	0.5	Benzo(A)Anthracene	0.17	J	mg/kg
11	A11-07-01		0	0.5	Benzo(A)Pyrene	0.15	J	mg/kg
11	A11-07-01		0	0.5	Benzo(B)Fluoranthene	0.21	J	mg/kg
11	A11-07-01		0	0.5	Benzo(GHI)Perylene	0.072	J	mg/kg
11	A11-07-01		0	0.5	Benzo(K)Fluoranthene	0.17	J	mg/kg
11	A11-07-01		0	0.5	Bis(2-Ethylhexyl)Phthalate	0.2	J	mg/kg
11	A11-07-01		0	0.5	Chrysene	0.22	J	mg/kg
11	A11-07-01		0	0.5	Fluoranthene	0.54		mg/kg

FD= Field Duplicate
EB= Equipment Blank

Volume I: RFI Results and Conclusions

RCRA Facility Investigation (RFI) Report

for the

Marginal Way Facility

Tukwila, Washington

Prepared by

RHÔNE-POULENC

in accordance with Administrative Order on Consent No. 1091-11-20-3008(h)

Prepared for

U.S. Environmental Protection Agency, Region 10

June 1995

Volume II: Figures and Tables

RCRA Facility Investigation (RFI) Report

for the

Marginal Way Facility

Tukwila, Washington

Prepared by

RHÔNE-POULENC

in accordance with Administrative Order on Consent No. 1091-11-20-3008(h)

Prepared for

U.S. Environmental Protection Agency, Region 10

June 1995

Volume III: Appendices

RCRA Facility Investigation (RFI) Report

for the

Marginal Way Facility

Tukwila, Washington

Prepared by

RHÔNE-POULENC

in accordance with Administrative Order on Consent No. 1091-11-20-3008(h)

Prepared for

U.S. Environmental Protection Agency, Region 10

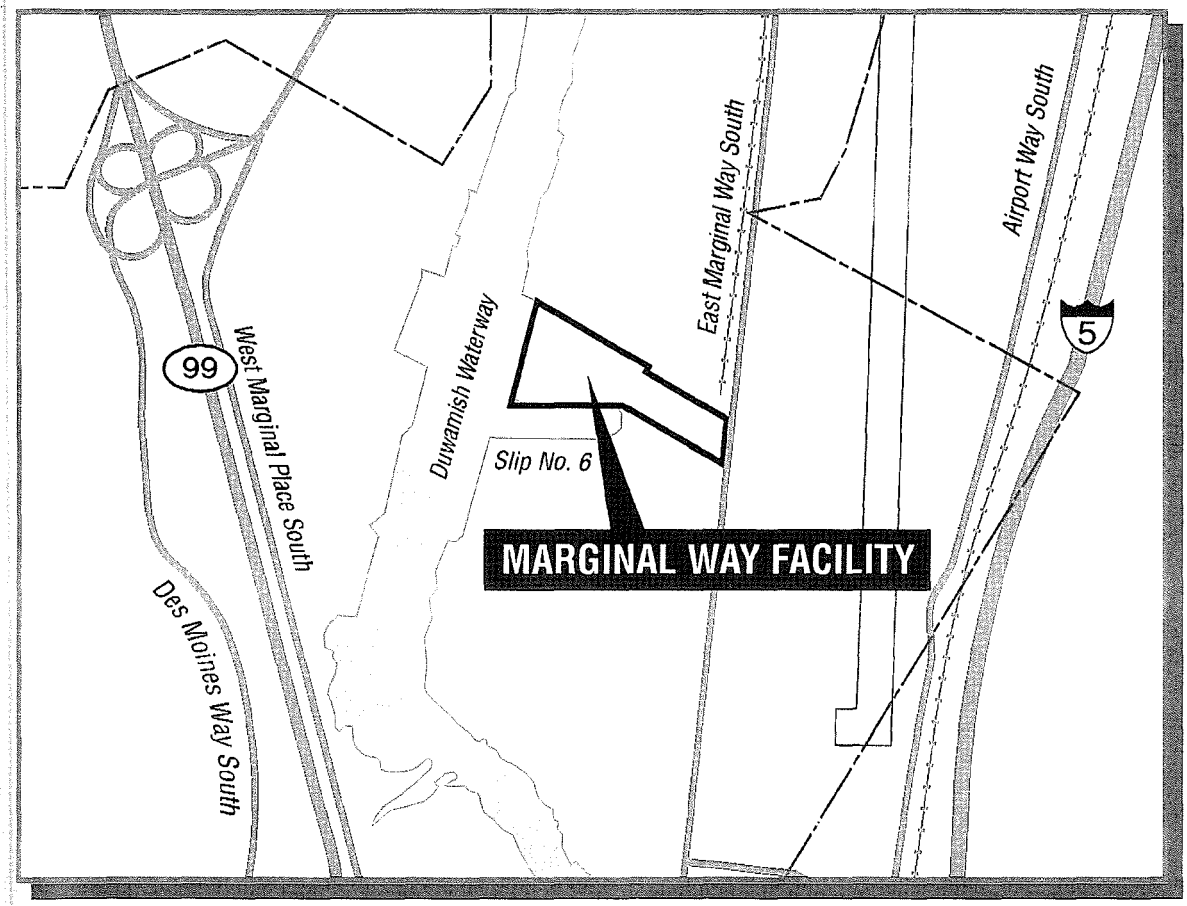
June 1995

Volume I: RFI Results and Conclusions

RCRA Facility Investigation (RFI) Report

for the

Marginal Way Facility *Tukwila, Washington*



Prepared for

U.S. Environmental Protection Agency, Region 10

Prepared by RHÔNE-POULENC

in accordance with Administrative Order on Consent No. 1091-11-20-3008(h)

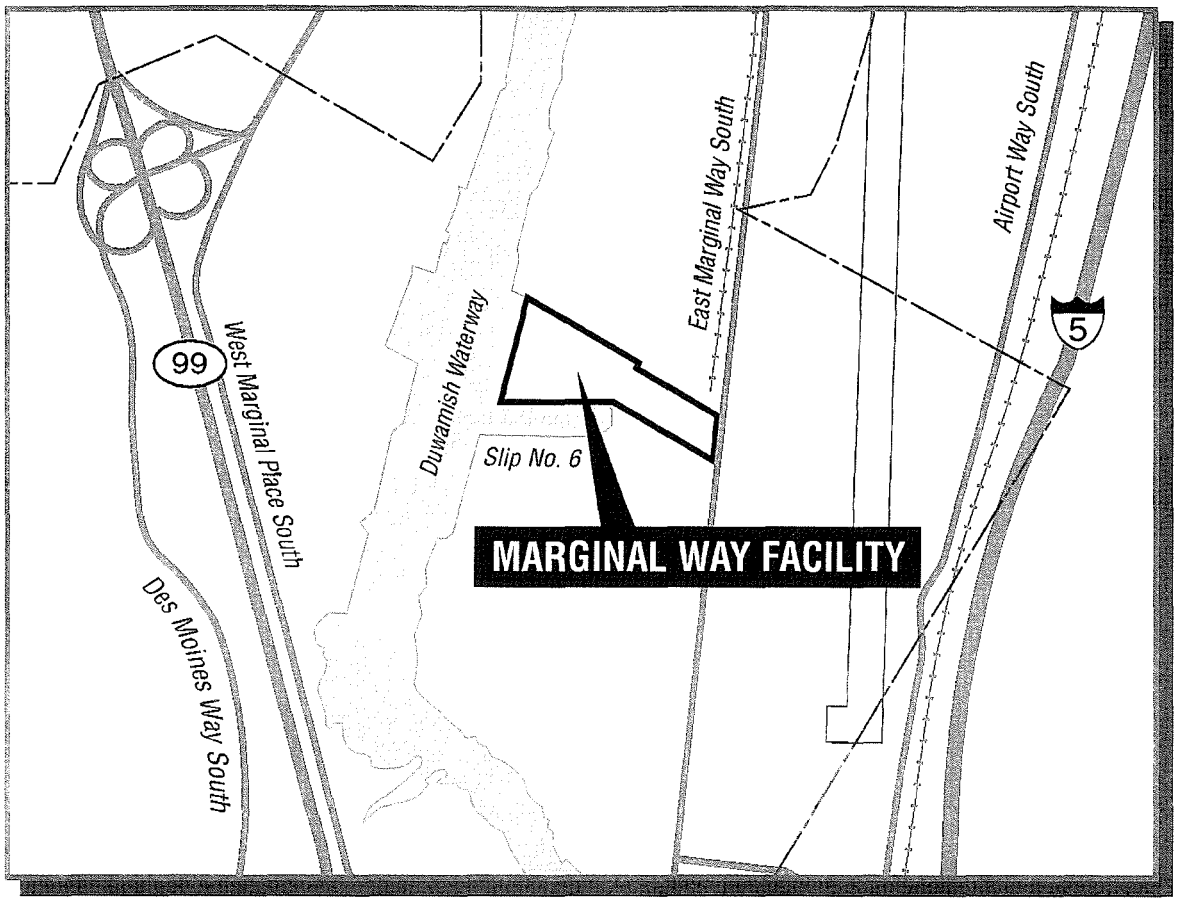
June 1995

Volume II: Figures and Tables

RCRA Facility Investigation (RFI) Report

for the

Marginal Way Facility *Tukwila, Washington*



Prepared for

U.S. Environmental Protection Agency, Region 10

Prepared by RHÔNE-POULENC

in accordance with Administrative Order on Consent No. 1091-11-20-3008(h)

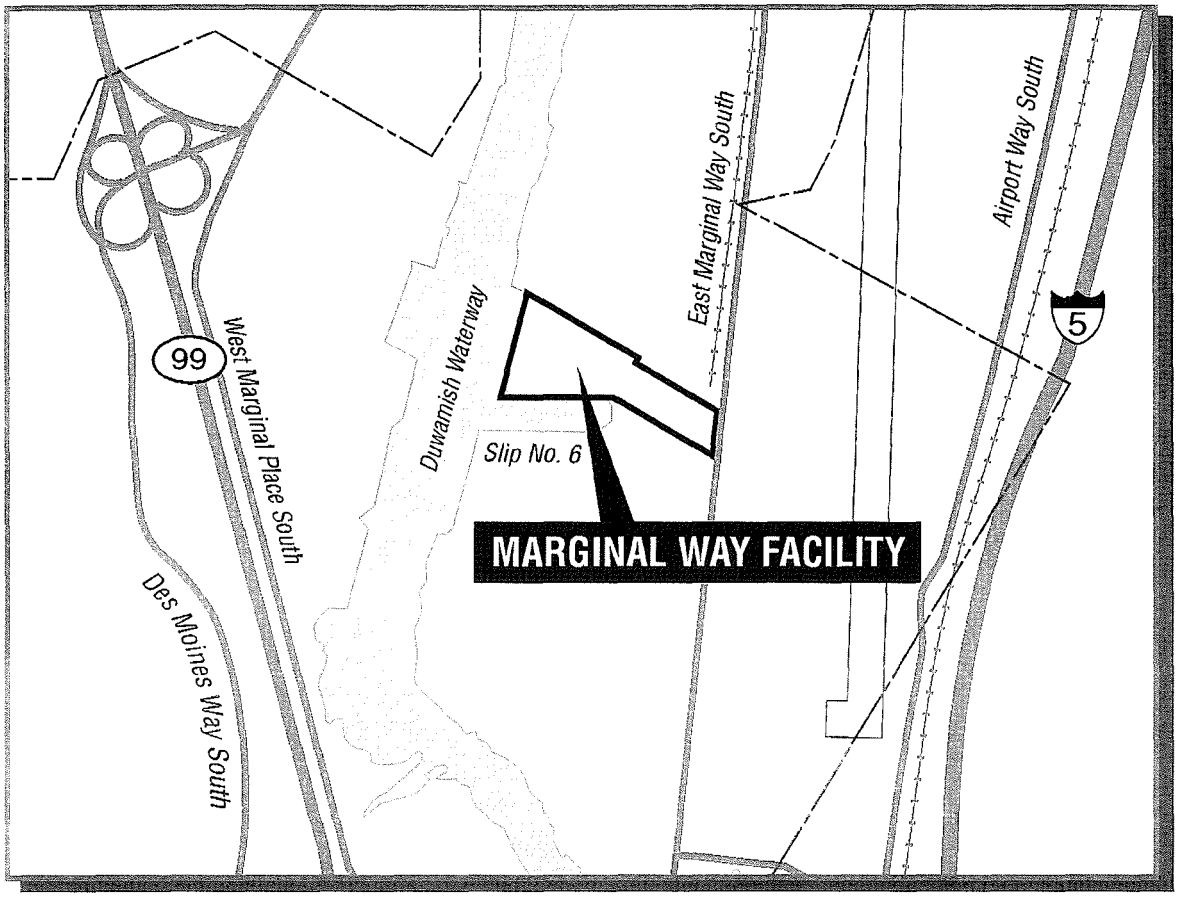
June 1995

Volume III: Appendices

RCRA Facility Investigation (RFI) Report

for the

Marginal Way Facility *Tukwila, Washington*



Prepared for

U.S. Environmental Protection Agency, Region 10

Prepared by RHÔNE-POULENC

in accordance with Administrative Order on Consent No. 1091-11-20-3008(h)

June 1995

CH2M HILL
Engineers
Planners
Economists
Scientists

June 19, 1995

NPE35051.A8

Sylvia Burges
Compliance Officer
RCRA Compliance Section, HW-104
U. S. EPA Region 10
1200 Sixth Ave.
Seattle, WA 98101

Dear Ms. Burges:

Subject: Final RFI Report Incorporating EPA and Ecology Comments for the Rhône-Poulenc Inc. Tukwila, WA Facility
Consent Order No. 1091-11-20-3008(h)
EPA ID No. WAD 00928 2302

Enclosed is the final RFI Report for the Rhône-Poulenc Inc. Tukwila, WA facility. This document incorporates the comments received from EPA and Ecology at the end of March. Specific responses to these comments were submitted to EPA and Ecology in a letter dated May 6; these responses were discussed in a meeting on May 10.

As discussed in that meeting, additional sampling was conducted at the end of March and the end of April 1995. This sampling constituted the Round 3 sampling and incorporated EPA's requested micropurge sampling of groundwater. Seep and limited surface water sampling was also conducted during Round 3. The results of the Round 3 sampling will be documented in a technical memorandum that will be submitted as an addendum to this RFI Report. Additional sampling was also conducted of storm and process sewer systems sediments during May 1995 at the request of Ecology. The results of this sampling will also be documented in a technical memorandum. The former compliance officer, Tom Post/EPA 10, stated that final approval of the RFI Report probably would not be given until the Round 3 Data Technical Memorandum and the Sewer Sediment Technical Memorandum are submitted.

On February 7, 1995, we sent out copies of the draft RFI Report in 3-ring binders. We have now incorporated the final changes into the applicable sections of the three volumes, and included in this package are the replacement and new pages for the final RFI Report. In the interests of conservation, we request that you insert these pages into your binders

Seattle Office
777 108th Ave. N.E. Bellevue, WA 98004-5118
P.O. Box 91500, Bellevue, WA 98009-2050
206.453.5000
FAX 206.462.5957

and recycle the previous versions.

Following is a list of the replacement and new pages in this package.

- Replacement covers and spines for the binders for Volumes I, II, and III
- For Volume I:
  - Replacement pages for the entire volume, with the exception of the tab dividers and Section 3 which have not changed
- For Volume II:
  - Replacement Table of Contents (pages i through viii)
  - An errata sheet for small changes to Figures 4-32, 4-34, and 4-35
  - Replacement Figures 4-45 and 4-51
  - Two new Figures, 4-51A and 4-51B
  - Replacement Tables 2-5 and 4-15 though 4-21
  - Two new Tables, 4-20A and 4-21A
- For Volume III:
  - Replacement Table of Contents (one page)
  - In Appendix D, the page breaks separating the Round 1 and Round 2 soil, groundwater, and sediment results were slightly off (the first few lines of Round 2 data were included at the end of Round 1 data). Therefore, the following replacement pages are provided:
    - Round 1 Soil Results, page 71
    - Round 2 Soil Results, pages 72 through 74
    - Round 1 Groundwater Results, page 30

- o Round 2 Groundwater Results, pages 31 through 34
- o Round 1 Sediment Results, page 6
- o Round 2 Sediment Results, pages 7 through 12

- Appendix J: Replacement page J-19
- Tab divider, section dividers, and text pages for an additional appendix, Appendix L

Thank you for taking the time and trouble to insert these pages into your documents.

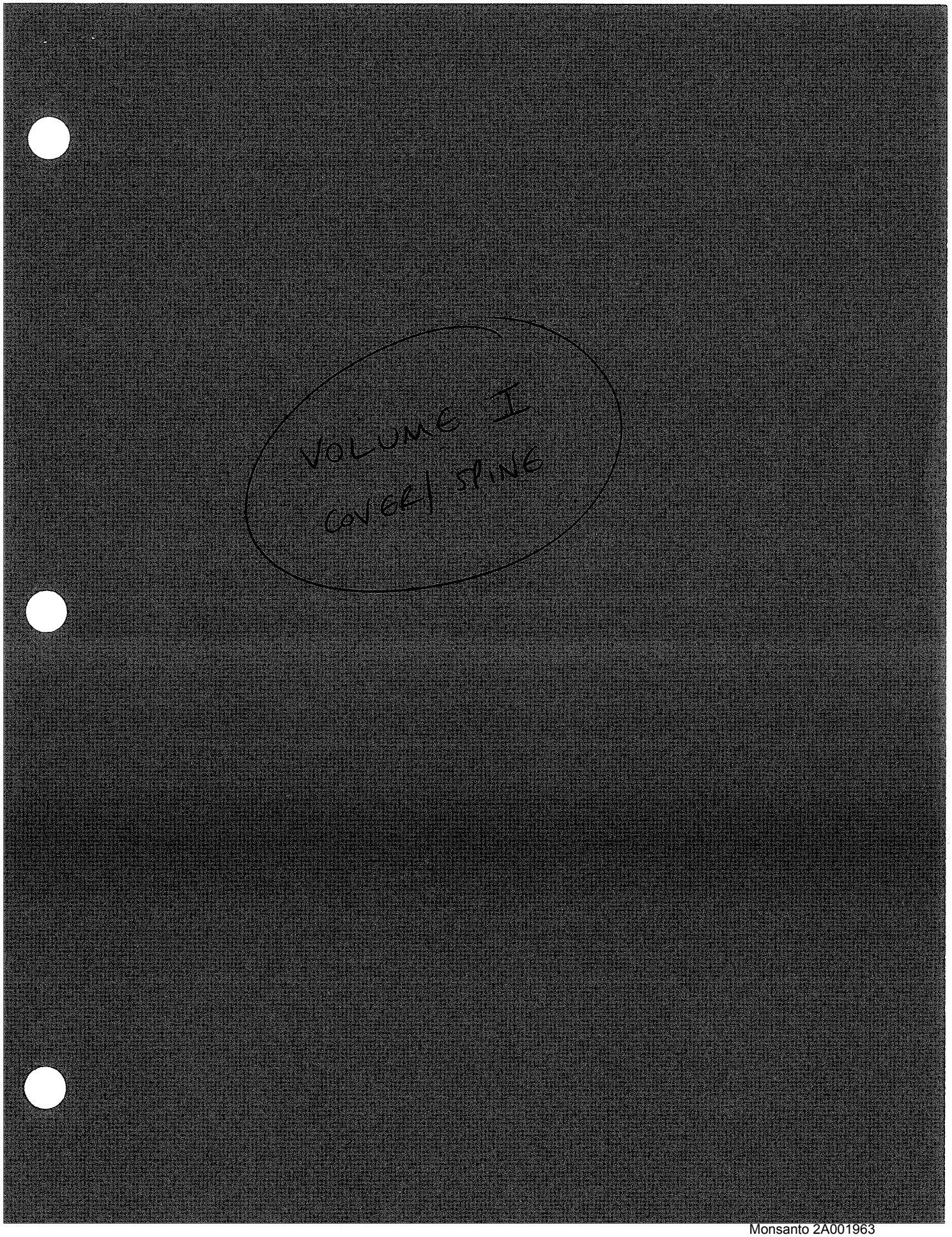
This document is being submitted in accordance with Paragraphs 6.14 and 7.3 of the above-referenced Administrative Order on Consent. If you need further information, please feel free to call Edwin Liu/Rhône-Poulenc Inc. at (609)452-5064 or, if he is not reachable, me at (206)453-5000. I understand that in the past the second copy that Tom Post received usually was given to Rene Fuentes/EPA 10.

Sincerely,

CH2M HILL

Elizabeth B. Luecker
Senior Environmental Engineer

enclosure (2 copies)
cc: Byung Maeng/Ecology NWRO
Teresa Michelsen/Ecology NWRO
Edwin Liu/Rhône-Poulenc Inc.
Sue Hays/Hays Consulting
Chuck Blumenfeld/Bogle & Gates
Peter Wright/Monsanto


VOLUME I
COVER SPINE